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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,215

11/17/2006

Motoki Hiraoka

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22852

7590

03/16/2010

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EXAMINER

AHMED, SHEEBA

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

03/16/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/565,215	HIRAOKA ET AL.	
	Examiner	Art Unit	
	SHEEBA AHMED	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-7 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3, 6, 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/3/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Amendments to claim 3 have been entered in the above-identified application. Claims 1 and 2 are cancelled. Claims 4 and 5 are withdrawn from consideration. New claims 6 and 7 have been added. Claims 3-7 are pending of which **claims 3, 6, and 7 are now under consideration.**

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goto et al. (US 5,731,075 A)

Goto et al. disclose colorants for transparent substrates (Column 1, lines 12-14). The colorants are used to provide a transparent colored film on top of a substrate and the colorant includes ultrafine metal particles (Column 1, lines 52-55). Preferably, the colorant also includes a polymer and a binder resin (Column 2, lines 8-10). The ultrafine particles have a particle size of less than about 1000nm, preferably less than 100nm (Column 3, lines 15-20). The ultrafine metal particles in the polymer layer are present in an amount in the range of about 0.01 to about 80 weight percent based upon the weight of the polymer compound. The polymer is a thermoplastic polymer

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such as HDPE, LDPE, nylon, PET, PVOH, polycarbonate and/or polymethylmethacrylate (Column 3, lines 28-45). The ultrafine metal particles is at least one metal selected from the group of noble metals such as gold, platinum, palladium, silver or metals such as titanium, vanadium, chromium, indium, and gallium. The polymer compound is mixed with a solvent to produce a polymer compound solution having uniformly dispersed ultrafine metal particles (Column 4, lines 43-55). The colorant solution can also include a binder resin that maintains the viscosity of the colorant at a level sufficient to permit easy handling during application to a substrate and to maintain the strength of the dried colorant layer applied to the substrate for printing (Column 5, lines 37-43). Representative binders are listed in Column 5, lines 44-51. The colorant is used to print on a transparent substrate such as glass and/or polymers (Column 6, lines 9-12). Once the colorant has been deposited on the substrate, the coated substrate is exposed to an elevated temperature for a time sufficient to remove the solvent. The dried, colorant layer, containing the ultrafine metal particles, on top of a polymer substrate meets the limitations of a resin substrate having a resin-metal composite layer on a surface of the resin substrate wherein the resin-metal composite layer comprises reduced metallic particles dispersed in a resin matrix.

Goto et al. do not teach that the concentration of the metallic particles is from 20 to 90%(v/v) in the resin-metal composite layer.

However, it would have been obvious to one having ordinary skill in the art to optimize the amount of the metallic particles given that Goto et al. specifically teach

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that the amount of the ultrafine metal particles is adjustable by changing the thickness of the polymer layer and the metal layer when forming the colorant (column 2, lines 54-65 and Column 3, lines 33-36).

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHEEBA AHMED whose telephone number is (571)272-1504. The examiner can normally be reached on Monday-Friday from 8am to 4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sheeba Ahmed/
Primary Examiner, Art Unit 1794